Date: 5/22/2017
GAIN Report Number: RS1733

Russian Federation

Post: Moscow

National Report on Quarantine Phytosanitary Status in 2016

Report Categories:
Sanitary/Phytosanitary/Food Safety
Agricultural Situation

Approved By:
Robin Gray
Prepared By:
FAS/Moscow Staff

Report Highlights:
The Russian Annual National Report on the Quarantine and Phytosanitary Status of the Russian Federation in 2016 was adopted and made available for the public in mid May, 2017. The unofficial translation of this report is provided by FAS/Moscow.

General Information:

NOTE: USDA unofficial data excludes Crimean production and exports. However, as of June 2014, Russian official bodies began incorporating data on Crimea into their official estimates. Where possible, data reported by FAS Moscow is exclusive of information attributable to Crimea.

Russian Government Order No. 917-p, of May 13, 2017, adopted the National Report on the Quarantine and Phytosanitary Status of the Territory of the Russian Federation in 2016 (hereinafter – National Report). The National Report was prepared by the Federal Phytosanitary and Veterinary Service of the Russian Federation (VPSS) in accordance with the Russian Federal Law of 2014 "On Plant Quarantine"[1] and contains information on the distribution of quarantine organisms in the territory of the Russian Federation as of January 1, 2017, on the establishment of the quarantine phytosanitary zones in Russia for each quarantine specie, as well as on the termination of the quarantine zones for each specie. FAS/Moscow reported on the previous National Report on Quarantine Phytosanitary Status of Russia in 2015 in June 2016. The full version of the National Report (in Russian) and the Government Order No. 917 of May 13, 2017, can be viewed on the site of the Russian Government: http://government.ru/docs/27684/ An unofficial translation of the National Report is below.

Please note:

1) The National Report refers to the Russian List of Quarantine Pests that was adopted by the Order of the Ministry of Agriculture of the Russian Federation No. 501 of December 15, 2014, and came into force in 2016. Beginning July 1, 2017, Russia, as a member of the Eurasian Economic Union (EAEU), must follow the Common List of Pest of the EAEU. FAS/Moscow reported on the Common List of Pests of the EAEU in the GAIN Report: EAEU Common List of Pests_4-27-2017.pdf;

2) In the translated tables the names of quarantine pests are given only in Latin; and

3) Unlike the previous report on the Quarantine Phytosanitary Status of the Russian Federation as of January 1, 2016, the current report does not provide data on the distribution of quarantine pests by subjects of the federation.

Translation begins:

Ministry of Agriculture of the Russian Federation

[1] FAS/Moscow reported on this Federal Law in GAIN report Federal Law on Plant Quarantine_8-13-2014.pdf

Federal Veterinary and Phytosanitary Surveillance Service
NATIONAL REPORT
On the Quarantine Phytosanitary Status of the Territory of the Russian Federation in 2016

Moscow 2017

Table of Contents

Introduction

The National Report on the Quarantine Phytosanitary Status of the Territory of the Russian Federation in 2016 (hereinafter – National Report) was prepared by the Federal Veterinary and Phytosanitary Surveillance Service in accordance with Article 12 of the Federal Law No. 206-FZ "On Plant Quarantine" of July 21, 2014 (hereinafter – Federal Law "On Plant Quarantine") based on monitoring data of the quarantine phytosanitary status of the territory of the Russian Federation.

In accordance with Article 12 of the Federal Law "On Plant Quarantine" the National Report approved by the Government of the Russian Federation shall be sent to the Federal Assembly of the Russian Federation and published in mass media. Information on the National Report shall be presented by the representatives of the Government of the Russian Federation at the hearings of the State Duma of the Federal Assembly of the Russian Federation.

The National Report contains information on the spread of quarantine pests in the territory of the Russian Federation, establishment of quarantine phytosanitary zones in the territory of the Russian Federation for each quarantine pest species, and also termination of quarantine phytosanitary zones in the territory of the Russian Federation for each quarantine pest species in 2016.

In accordance with Article 2 of the Federal Law "On Plant Quarantine," the quarantine object (quarantine pest) – a dangerous organism that is absent or has limited distribution in the territory of the Russian Federation and is included in the uniform list of quarantine pests.

Herewith, a dangerous organism is a viable plant of any kind, variety or biological type, an animal or a pathogenic organism of any kind, of a biological type, that is capable of harming plants or products of plant origin.

The information on the spread of quarantine pests is based on the results of quarantine phytosanitary examination and monitoring of quarantine phytosanitary status of the territory of the Russian Federation.

In accordance with Article 10 of the Federal Law "On Plant Quarantine," monitoring of the quarantine phytosanitary status of the territory of the Russian Federation, which serves as the basis for developing the National Report, is a system of observation, analysis, evaluation and forecasting of quarantine pest distribution in the territory of the Russian Federation.

Procedures for the quarantine pest monitoring of the territory of the Russian Federation were approved by Order of the Ministry of Agriculture of the Russian Federation from July 9, 2009 No. 269 "On the Approval of Procedures for the Quarantine Pest Monitoring in the Territory of the Russian Federation."

Risk associated with transfer and acclimatization of quarantine pests from other countries and continents was noted in different countries of the world several centuries ago.

The first law to regulate the relations in this field was adopted in France in 1660. The first law on plant quarantine in Russia was passed in 1873.

At present, plant quarantine in the Russian Federation is regulated by the Federal Law "On Plant Quarantine," which stipulates that plant quarantine is a legal regime that provides for the system of measures on protection of plants and products of plant origin from quarantine pests in the territory of the Russian Federation.

The Federal Veterinary and Phytosanitary Surveillance Service (VPSS) established by the Order of the President of the Russian Federation of March 9, 2004 No. 314 "On the System and Structure of Federal Executive Bodies," works to ensure protection of the territory of the Russian Federation from the introduction and spread of quarantine pests.

In accordance with the Resolution of the Government of the Russian Federation from June 30, 2004, No. 327 "On the Approval of the Statutes of the Federal Service for Veterinary and Phytosanitary Surveillance" VPSS exercises the following authorities:

- State quarantine phytosanitary control (surveillance) within the limits of its authority;
- Monitoring of quarantine phytosanitary status of the territory of the Russian Federation;
- Creation and maintenance of open database of the phytosanitary zones in electronic form;
- Carrying out of analysis of phytosanitary risk;
- Establishment of quarantine phytosanitary status of the territory of the Russian Federation, quarantine phytosanitary inspection of plants during the vegetative period both in their cultivation zones (laboratories, nurseries, plantations, fields, orchards, greenhouses, etc.), and in areas of wild plant growth, as well as stored or transported plants and products of plant origin;
- Establishment and termination of quarantine phytosanitary zones, introduction and cancellation of quarantine phytosanitary regime, organization of measures to localize the hotbed of the quarantine pest and (or) liquidation of the quarantine pest population.

In accordance with the Resolution of the Government of the Russian Federation of May 29, 2006, No. 329 "On the Official National Plant Protection Organization," the VPSS is the official National Plant Protection and Quarantine Organization responsible for fulfilling its duties pursuant to Article IV of the International Plant Protection Convention.

Within the framework of international cooperation, the VPSS shall exchange the necessary information regarding the spread of harmful organisms and phytosanitary measures used to fight them with the National Plant Protection and Quarantine Organizations of the foreign states, first of all countries - exporters of the regulated products to the Russian Federation.

The VPSS shall act directly and through its regional branches involving the authorized or subordinate organizations that have been certified and have licenses for the established type of activity.

International trade development and involvement of numerous organizations or individual entrepreneurs in trade relations combined with relaxed state control can jeopardize the Russian Federation phytosanitary environment and result in significant damage to the national economy.

In connection with the introduction by the Russian Federation of a ban on the importation of certain types of agricultural products, raw materials and food products from a number of countries (Order of the President of the Russian Federation No. 560 of August 6, 2014 "On Application of Certain Special Economic Measures in Order to Provide for the Security of the Russian Federation", Resolution of the Russian Government No. 1296 of November 30, 2015 "On Measures to Implement the Order of the President of the Russian Federation "On Measures to Ensure the National Security of the Russian Federation and Protect Citizens of the Russian Federation from Criminal and Other Illegal Actions and the Application of Special Economic Measures with Respect to the Republic of Turkey") the geography of imports of regulated products to the Russian Federation has changed significantly. These products are imported from countries, which phytosanitary condition has been insufficiently studied. This increases the risk of penetration of harmful organisms into the territory of the Russian Federation and increases the responsibility of the VPSS for performing control (surveillance) functions.

At present, the state quarantine phytosanitary control takes place in 212 checkpoints at the Russian Federation State Boarder and in 291 temporary storage warehouses.

In 2016, about 11.5 million metric tons (MMT) and 1.4 billion articles of various regulated products of plant origin were inspected during importation into the Russian Federation. There were 4,546 cases with 41 quarantine pest species found in products imported from 67 countries. Compared with 2015, the number of found quarantine pests in imported goods increased by 17 percent, and the number of cases increased by 15 percent. The importation of infested regulated products to the Russian Federation was prevented.

The following quarantine pests, which are not present in the territory of the Russian Federation, were found in imported regulated goods: Spodoptera littoralis (Boisduval), Zabrotes subfassiatus Boh., peanut weevil, Callosobruchus weevils, American clover leaf miner, mulberry scale, oriental fruit fly, whitestar potato, ivy-leafed morning glory, Bidens pilosa, as well as biological agents of ear rot of maize, corn bacterial wilt, brown bacterial potato rot, Monilinia fructicola (Winter) Honey, and other types of pests.

The introduction, establishment, spread and acclimatization of those quarantine pest species in Russia would have led to significant losses of agricultural crops and resulted in significant costs associated with the elimination of the quarantine pest hotbeds, as well as any indirect losses such as deterioration of crop quality, negative impact on human health, shrinking export markets, etc.

The greatest economic impact on the production of many agricultural crops can be associated with quarantine species of weeds found in the imported products. Thus, in the Russian Federation losses from such weeds as whitestar potato, ivy-leaved morning glory, Bidens pilosa could exceed 10 billion Rubles. In the USA the losses from introduction of species of weeds are $27.9 billion.

A typical example of a real phytosanitary threat is the annual detection by VPSS of a causative agent of brown bacterial potato rot in potatoes imported to the Russian Federation. This pest, which is spread in many countries, exporters of seed and table potato, seriously damages plantings of potato and tomatoes. In India the brown bacterial potato rot (*Ralstonia solanacearum (Smith) Yabuuchi et al.*) is spread on 60 percent of potato fields, and losses reach from 30 percent to 80 percent of crop. In China, recently, the disease has progressed significantly from the southern provinces to the north.

Phytosanitary risk analysis conducted in the territory of the Russian Federation shows that the potential area of the brown bacterial potato rot coincides with the main regions of potato and tomato production. The economic damage from this disease might be huge- from 10 billion to 26 billion Rubles per year.

Another quarantine pest on potato, which is not present in the Russian Federation, is a new specie of

nematode – Colombian Gallic root nematode (*Meloidogyne chitwoodi Golden, O'Bannon, Santo & Finley*). This pest was found for the first time in 1980 in the USA in the Colombia river basin (states Washington and Oregon), and from there it got its name. In Europe this specie of nematode (*Meloidogyne chitwoodi Golden et al.*) was first found and described in Netherlands in 1986, and later in some other European countries.

The main host plants of Colombian Gallic root nematode are potato and tomatoes. In addition, the Colombian Gallic root nematode can parasitize on many different plants cultivated both in the open air and in the closed ground. It reproduces well on barley, corn, oats, sugar beet, wheat, carrot and different species of wild and cultural grasses. With a high infectious burden of plantations, the unit weight of tubers decreases. This leads to a significant decrease in potato yield. Due to the necrosis of affected potato tubers and the development of rot, the Colombian Gallic root nematode reduces the market value of potatoes. For example, if only five percent of potato tubers are affected, the entire batch of products, according to the current US regulations, is not subject to commercial sales. The potato tubers infested by the Colombian Gallic root nematode are not subject to storage, as they quickly rot, and are not suitable for processing.

This type of nematode is considered the main nematode pest in the states of the Pacific North-West of the USA. If the control measures are not applied, the annual direct losses would be about $40 million.

Considering the wide distribution in the Russian Federation of plants that are not resistant to this pest, as well as absence of measures of effective control, with the introduction and survival of the pest, economic losses from the Colombian Gallic nematode in the Russian Federation may exceed 10 billion Rubles a year.

In order to implement the state economic policy in the sphere of the food security of the Russian Federation aimed at development of the domestic agro-industrial complex for the stable supply of food for the population, the Order of President of the Russian Federation of January 30, 2010, No. 120 "On Approval of the Food Security Doctrine of the Russian Federation" approved the Doctrine of the Food Security of the Russian Federation.

Food security of the Russian Federation is one of the principal directions of guaranteeing the country's national security. The most important part of the food security of the Russian Federation is the quarantine phytosanitary security aimed at protection of the territory of the Russian Federation from risks associated with penetration, distribution and acclimatization of dangerous organisms.

In order to prevent and minimize the consequences of phytosanitary risks, to take timely emergency measures to localize and eliminate hotbeds of quarantine pests, quarantine phytosanitary inspections and monitoring of quarantine phytosanitary status of the country's territory are conducted.

Section 1
Distribution of quarantine pests in the territory of the Russian Federation

In accordance with Article 2, of the Federal Law "On Plant Quarantine," a quarantine pest means a harmful organism that is not present or has limited distribution in the territory of the Russian Federation, and has been entered into the Common List of Quarantine Pests.

Such organisms have potential economic importance to the area endangered thereby and where they are not yet present, or present but not widely distributed and under official control.

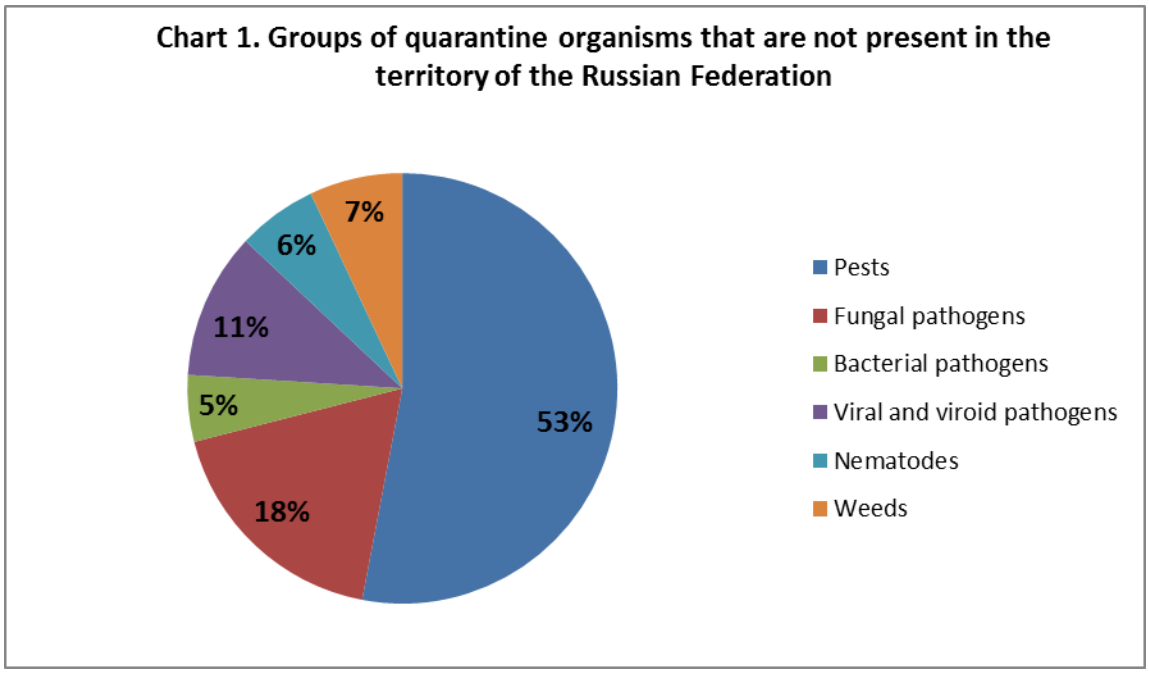
The list of quarantine pests shall be developed and revised based on pest risk analysis.

The List of Quarantine Pests that is currently in force in the Russian Federation was approved by the

Order of the Ministry of Agriculture of Russia of December 15, 2014, No. 501 "On Approval of the List of Quarantine Pests" (hereinafter – the List of Quarantine Pests). The List contains 168 species and phylum of quarantine pests, including 132 pests in the section "Quarantine Pests That Are Not Present in the Territory of the Russian Federation," and 36 pests in the section "Quarantine Pests That Have Limited Distribution in the Territory of the Russian Federation." [2]

Quarantine organisms that are not present in the territory of the Russian Federation include 69 pest species (insects and mite), 24 fungal species, 7 bacteria species, 1 phytoplasma specie, 14 virus and viroid species, 8 nematode species, and 9 weed plant species.

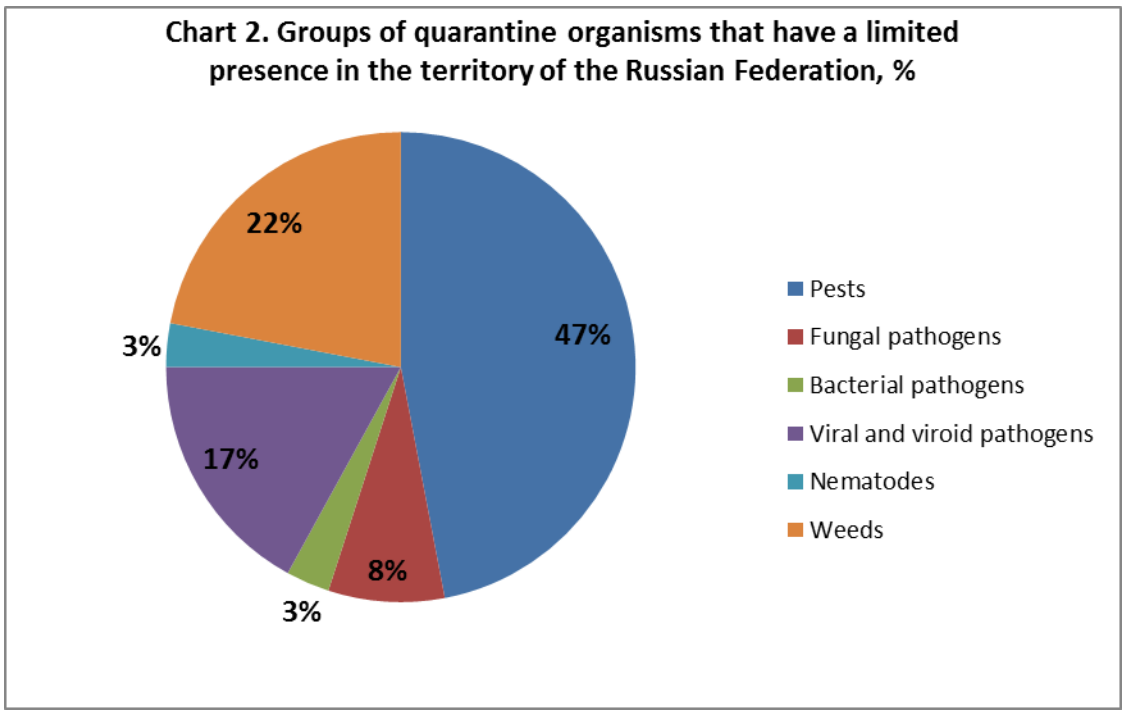
The ratio of various groups of quarantine pests that are not present in the territory of the Russian Federation and included in the List of Quarantine Pests is shown in Chart 1.



Quarantine pests that have limited distribution in the territory of the Russian Federation include 17 pest species, 3 fungal species, 1 bacteria species, 6 virus and viroid species, 1 nematode species, and 8 weed plant species.

The ratio of the above-mentioned quarantine organisms included on the List of Quarantine Pests is shown in Chart 2.

[2] Beginning July 1, 2017, Russia, as a member of the Eurasian Economic Union (EAEU) must follow the Common List of Pest of the EAEU. FAS/Moscow reported on the Common List of Pests of the EAEU in the GAIN Report: EAEU Common List of Pests_4-27-2017.pdf



Section 2
Establishment of the quarantine phytosanitary zones in the territory of the Russian Federation

As of January 1, 2017, 129 species of quarantine dangerous pests from the List of Quarantine Pests were not present in the territory of the Russian Federation (77 percent of the total number of quarantine pests), and 38 species (23 percent) have limited distribution.

At present the Russian Federation is one of the largest producers and exporters of grain crops.

The export potential of the Russian Federation is largely influenced by the quarantine phytosanitary condition of its territory due to the fact that countries importing Russian grain are putting forward certain phytosanitary requirements for the production of these regulated products in zones free from many harmful organisms, including weeds. Countries, the main importers of Russian grains, require the absence in these products of such dangerous organisms of quarantine importance in the Russian Federation as ragweed (*Ambrosia artemisiifolia L.)*, mountain bluet (*Acroptilon repens DC.)*, *Tilletia indica*, Khapra beetle (*Trogoderma granarium Ev.*), etc.

Many quarantine organisms from the List of Quarantine Pests with their potential impact estimated as high (over 1 billion Rubles) are related to cereal crops.

Among them are species that are absent in the Russian Federation, such as *Neovossia indica (Mitra) Mundkur*, ear rot of maize (*Stenocarpella macrospora (Earle) Sutton and Stenocarpella maydis (Berkeley) Sutton*), bacterial wilt of corn (*Pantoea stewartii subsp. stewartii (Smith) Mergaert et al.*), Khapra beetle (*Trogoderma granarium Ev.*), *Diabrotica virgifera Le Conte*, bacterial blight of rice (*Xanthomonas oryzae pv. Oryzae (Ishiyama) Swings et al.*), weeds - such as hairy beggarticks (*Bidens pilosa L.*), whitestar (*Ipomoea lacunosa L.*), ivy-leaved morning glory (*Ipomoea hederacea L.*), poverty weed (*Iva axillaris Pursh.*), Carolina horse nettle (*Solanum carolinense L.*), and some others.

Great importance for ensuring the freedom of Russian grain from quarantine pests have measures aimed at localization and elimination of the hotbeds of quarantine weeds that have limited presence in the country.

Potatoes are an important crop in the Russian Federation that was cultivated in the last five year (2012-2016) on an average of 2.1 million hectares a year. According to Rosstat[3], the annual production of potatoes in this period varied from 29.5 million metric tons (MMT) to 33.6 MMT.

Potatoes are associated with a wide range of quarantine pests from the section "Quarantine Pests That Are Not Present in the Territory of the Russian Federation" of the List of Quarantine Pests, potential impact of which is estimated as high (over 1 billion Rubles). The pests include potato beetle – tuber flea beetle (*Epitrix tuberis Gentner*), Andean potato weevils (*Premnotrypes spp.*), potato moth (*Phthorimaea operculella Zell.*); fungal pathogens – potato smut (*Thecaphora solani Thirumet et O'Brien*); viral pathogens – *Potato Andean latent Tymovirus, Potato Andean mottle comovirus, potato T tepovirus, potato yellowing alfamovirus; Globodera pallida (Stone) Behrens*, Columbian Gallic root nematode (*Meloidogyne chitwoodi Golden et al.*); bacterial pathogen – potato brown rot (*Ralstonia solanacearum (Smith) Yabuuchi et al.*) and others.

From the list of quarantine pests with limited presence in the territory of the Russian Federation that are associated with potatoes, the biggest phytosanitary importance is the golden potato nematode (*Globodera rostochiensis*). Hotspots are registered in 61 subjects of the Russian Federation in 913 municipal units on the total area of 393.1 thousand hectares.

Fruit and berry plantations occupy more than 500 thousand hectares. According to Rosstat, the fruit and berry total crop averaged 2.96 MMT per year in 2012-2016.

Fruit crops are associated with seven quarantine pests from the section "Quarantine Pests That Are Absent in the Territory of the Russian Federation" of the List of Quarantine Pests, the potential impact of which is estimated as medium and high (over 100 million Rubles). These are pests – mulberry scale (*Pseudaulacaspis pentagona (Targ.-Toz.*), apple maggot (*Rhagoletis pomonella Walsh*); agents of bacterial pathogens – bacterial blight of grapevine (*Xylophilus ampelinus (Panagopoulus) Willems et al.*), grapevine yellows phytoplasma disease (*Grapevina Phitoplazma vitus*), agents of viral pathogens – *Cherry rasp leaf nepovirus*, *Peach latent mosaic viroid*, *Peach rosette mosaic nepovirus*.

Six dangerous species of pests associated with fruit crops have limited presence in Russia: Mediterranean fruit fly (*Ceratitis capitata (Wied.*), oriental fruit moth (*Grapholita molesta Busck*), California scale (*Quadraspidiotus perniciosus Comst.*), phylloxera (*Viteus vitifoliae (Fitch.*); fire blight (*Erwinia amylovora (Burill.) Winslow et al.*), *Plum pox potyvirus*.

From the mentioned quarantine pests the most widely spread are the following:

- California scale (*Quadraspidiotus perniciosus Comst*.) (total area of detected hotbeds is 22.9 thousand hectares (TH. HA), quarantine phytosanitary zones are established in 211 municipal units of 18 subjects of the Russian Federation on the area of 95.4 TH. HA);
- *Hyphantria cunea* Drury (total area of detected hotbeds is 113.37 TH. HA, quarantine phytosanitary zones are established in 175 municipal units of 16 subjects of the Russian Federation on the area of 306.2 TH. HA);
- Oriental fruit moth (*Grapholita molesta Busck*) (total area of detected hotbeds is 15.36 TH. HA, quarantine phytosanitary zones are established in 112 municipal units of 16 subjects of the Russian

[3] Russian State Statistical Service (Rosstat)

Federation on the area of 27.2 TH. HA).

Pests and diseases attributed to crops in protected ground represent a special group. Acreage planted with such crops in Russia is over 2 TH HA.

The impact of quarantine pests on these crops may be estimated as high due to the nature of crop production in protected ground. These plant pests are American clover leaf miner (*Liriomyza trifolii Burg.*), western (California) flower thrips (*Frankliniella occidentalis Perg.*), tobacco whitefly (*Bemisia tabaci Gen.*), as well as fungal pathogens such as chrysanthemum ray blight (*Didymella ligulicola (K.F.Baker, Dimock&Davis) von Arx*), chrysanthemum white blister (*Puccinia horiana Henn*).

As of January 1, 2017, hotbeds of western (California) flower thrips were detected in 40 subjects of the Russian Federation, in 70 municipal units with a total area of 361.59 TH.HA. The total area of established quarantine phytosanitary zone for this pest is 547.45 HA.

The serious threat for forestry is the quarantine specie of Siberian silkworm *Dendrolimus sibiricus Tschetw* that has limited presence in the territory of the Russian Federation and is one of the most dangerous pests of coniferous forests.

The Siberian silkworm damages the main forest-forming trees, including pine, spruce, fir and larch. This quarantine specie is characterized by regular outbreaks of numbers when the mass destruction of needles takes place in large areas, leading to the complete death of trees. In addition, even with a relatively low number, the congestion of needle by caterpillars of the Siberian silkworm leads to the suppression of trees and significantly reduces their resistance to damage by other forest pests.

Hotbeds of mass reproduction of the Siberian silkworm are annually registered in Russia, in some years they have reached 7 million HA. According to forestry experts, it will take about a hundred years for the coniferous forest to regrow in areas ruined by this pest.

In the Russian Federation, Siberian silkworm hotbeds are registered primarily in the remote regions of the South of Siberia and the Far East. According to Rosleskhoz[4], total forest area infected with Siberian silkworm hotbeds in 2016 was 1.39 million HA.

Information on the quarantine pest distribution in the Russian Federation is given in Table 1.

Table 1. Distribution of quarantine objects (pests) in the Russian Federation (as of January 1, 2017)

Name of quarantine pest	Number of subjects of the Russian Federation	Number of municipal units and urban districts	Total area of detected hotbeds, HA	Area of the established quarantine phtosanitary zone, HA
I. Plant pests				

[4] Russian Forestry Service

1	Spodoptera litura Fabr.	1	19	4,221.9	4,221.95
2	Hyphantria cunea Drury	16	175	113,374.49	306,201.45
3	Grapholitha molesta Busck.	16	112	15,362.12	27,204.53
4	Dryocosmus kuriphilus Yas.	1	1	1,174.4	22,351.2
5	Frankliniella occidentalis Perg.	40	70	361.59	547.45
6	Quadraspidiotus pemiciosus Comst.	18	211	22,904.6	95,422.79
7	Phthorimaea operculella Zell.	7	49	4,073.86	11,635.55
8	Carposina niponensis Wlsgh.	5	58	164,020.63	213,140.04
9	Ceratitis capitata (Wield.)	1	1	0.058	0.058
10	Bemisia tabaci Gen.	2	3	2.81	13.37
11	Viteus vitifoliae (Fitch.)	10	85	8,713.91	19,574.73
12	Popillia japonica Newm.	1	1	2,000	2,000
13	Tuta absoluta Povolny	4	5	219.68	299.11
14	Monochamus urussovi Fisch.	38	443	183,128,280	326,374,327.38
15	Monochamus sutor L.	46	457	185,915,864	280,643,805.98
16	Lymarrtria dispar asiatica Vnukovskij	11	201	37,474,781.5	84,410,925.1
17	Dendrolimus sibiricus Tschetw.	19	265	98,779,384.5	177,563,730
18	Monochamus galloprovincialis Oliv.	41	467	129,344,866.06	271,397,233
19	Monochamus saltuarius Gebl.	7	122	63,901,754.5	89,242,232.5
20	Monochamus impluviatus Mot.	5	82	110,240,221	135,624,899
II. Plant pathogens					
1	Didymella ligulicola	1	1	0.05	0.05
2	Puccinia horiana Henn.	2	4	0.78	0.78
3	Globodera rostochiensis (Woll.) Behrens.	61	913	393,121.59	1,757,117.6
4	Erwinia amylovora (Burill.) Winslow et al.	15	44	56,601.4	207,608.92
5	Plum pox potyvirus	18	33	3,475.04	13,846.94
6	Synchytrium endobioticum (Schilb) Percival	13	36	194.93	1,308.32
7	Phytophtora fragariae Hickmarr	1	1	0.3	0.3
8	Diaporthe helianthi Munt.Cvet. et al.	10	131	161,834.61	175,170.61
9	Potato spindle tuber viroid	1	1	50	442
10	Heterodera glycines Ichinohe	1	11	9,867.1	9,867.1

II. Weeds					
1	Ambrosia psilostachya DC.	9	17	1,266.74	26,279
2	Ambrosia artemisiifolia L.	31	362	2,555,967.81	10,035,442.35
3	Ambrosia trifida L.	25	108	65,024.71	2,718,156.28
4	Acroptilon repens DC.	19	202	328,114.66	5,061,459.3
5	Solanum rostratum Dun.	6	34	34,701.3	3,828,769.93
6	Solanum triflorum Nutt.	3	8	9,989.1	704,344.2
7	Cuscuta spp.	67	697	136,557.84	9,717,385
8	Cenchrus longispinus (Hack) Fern	5	15	65.6	722.27

Section 3
Termination of the quarantine phytosanitary zones in the territory of the Russian Federation in 2016

In accordance with Article 19 of the Federal Law "On Plant Quarantine," the decision to lift the quarantine phytosanitary regime (termination of the quarantine phytosanitary zones) shall be made by the VPSS after the quarantine pest population is eradicated.

According to the results of quarantine phytosanitary examination and monitoring of the quarantine phytosanitary condition of the territory of the Russian Federation in 2016 the quarantine phytosanitary condition of the territory of the Russian Federation changed compared with 2015 for 32 quarantine pest species: for 14 species new hotbeds were identified and quarantine from old hotbeds was lifted, for 11 species new hotbeds were identified, and for 7 species the hotbeds were liquidated and quarantine phytosanitary zones were terminated.

For 6 quarantine pests of limited presence in the territory of the Russian Federation the quarantine phytosanitary status has not changed.

New hotbeds were identified and new quarantine phytosanitary zones were established for 25 quarantine pests. Out of the total number of identified quarantine hotbeds, about 60 percent are species plants (weeds), 27 percent are species of nematodes, and 13 percent are species of plant pests and fungi, bacterial and phytoplasma plant pathogens.

Localization of hotbeds of pests is a complex task considering the presence of such pathways as natural spreading with wind and water, transport by birds and animals, and the possibility of hidden infestation.

The elimination of quarantine pest populations, even with timely and correct application of control measures, often takes more than one decade. For example, the liquidation of the population of the agent of potato wart disease takes not less than 20–25 years and the elimination of the potato cyst nematode agent takes 10–15 years. Therefore, the elimination of hotbeds of quarantine objects is a very slow process.

After carrying out quarantine measures and measures for localization of hotbeds and liquidation of populations of quarantine pests in 2016, 158 hotbeds of 21 quarantine pests were liquidated in the territory of the Russian Federation and 82 quarantine phytosanitary zones were terminated.

These terminations include:

- 102 hotbeds of six species of weeds (*Ambrosia artemisiifolia L., Ambrosia trifida L., Acroptilon*

repens DC., Solanwn rostratum Dun., Solanum triflorwn Nutt., Cuscuta spp.) in 48 municipal units on the area of 961.3 HA, and 45 quarantine phytosanitary zones of the total are 8,068.63 HA were terminated;

- 26 hotbeds of 10 species of plant pests (*Hyphantria cunea Drury, Grapholitha molesta Busck., Frankliniella occidentalis Perg., Quadraspidiotus perniciosus Comst., Phthorimaea operculella Zell., Ceratitis capitata (Wied.), Monochamus saltuarius Gebl., Monochamus impluviatus Mot., Viteus vitifoliae (Fitch.), Dendctonus micans Kurg.*) on total area of 382.52 HA, and 33 quarantine phytosanitary zones on total area of 90,319,120.37 HA were terminated;
- Hotbeds of *Globodera rostochiensis (Woll.) Behrens.)* were liquidated in eight municipal units in four subjects of the Russian Federation, and five quarantine phytosanitary zones with total area of 2,178 HA were terminated; and
- After the emergency quarantine phytosanitary measures were taken in Karsnodar Kray they liquidated the only dangerous disease hotbed in the Russian Federation - *Pantoea stewartii subsp. Stewartii (Smith) Mergaert et al.* (the area of terminated quarantine phytosanitary zone is 32.2 HA).

The Order of the Russian Ministry of Agriculture No. 673 of December 26, 2007 "On Approval of the List of Quarantine Pests" included the *Dendctonus micans Kurg.* in the List of Quarantine Pests. However, this pest is not present in the current List of Quarantine Pests. Therefore, in 2016, the quarantine phytosanitary zones for this pest (the total area of 90,315,237 HA) were terminated.

The total area of quarantine phytosanitary zones terminated in 2016 was 90,329,481.15 HA.

In 2016, hotbeds were liquidated and quarantine phytosanitary zones were terminated for 21 quarantine pests.

The Information on the termination of the quarantine phytosanitary zones in the territory of the Russian Federation in 2016 is in the Table 2.

Table 2. Information on the termination of the quarantine phytosanitary zones in the territory of the Russian Federation in 2016

	Name of quarantine pest	Number of the subjects of the Russian Federation	Number of municipal units	Area of eliminated quarantine phytosanitary zones, hectares
I. Plant pests				
1	Hyphantria cunea Drury	1	2	31
2	Grapholitha molesta Busck.	1	1	0.01
3	Frankliniella occidentalis Perg.	5	10	17.61
4	Quadraspidiotus perniciosus Comst.	1	1	0.05
5	Phthorimaea operculella Zell.	1	1	2,900
6	Ceratitis capitata (Wied.)	1	3	0.25
7	Monochamus saltuarius Gebl.	1	1	156
8	Monochamus impluviatus Mot.	1	3	614
9	Viteus vitifoliae (Fitch.)	2	2	164.45
1	Dendctonus micans Kurg.	6	121	90,315,237

0				
II. Plant pathogens				
1	Puccinia horiana Henn.	1	1	0.05
2	Diaporthe helianthi Munt Cvet. et al.	1	1	75
3	Plum pox potyvirus	1	1	6.9
4	Pantoea stewartii subsp. Stewartii (Smith) Mergaert et al.	1	1	32.2
5	Globodera rostochiensis (Woll.) Behrens.)	4	8	2,178
III. Weeds				
1	Ambrosia artemisiifolia L.	5	6	21.79
2	Ambrosia trifida L.	5	6	110.31
3	Acroptilon repens DC.	5	5	587.95
4	Solanwn rostratum Dun.	1	1	1,300
5	Solanum triflorwn Nutt.	2	2	262.2
6	Cuscuta spp.	10	28	5,786.38

Conclusions

There are 168 quarantine pest species, including 132 quarantine pests from the section "Quarantine Pests That Are Not Present in the Territory of the Russian Federation," and 36 species from the section "Quarantine Pests with Limited Presence in the Territory of the Russian Federation" on the List of Quarantine Pests.

As of January 1, 2017, in the territory of the Russian Federation, hotbeds were detected and quarantine phytosanitary zones were established for 38 quarantine pests from the List of Quarantine Pests, including 20 plant pest species, 10 plant disease pathogens, of which two are nematodes, and 8 plant weed species.

The most common quarantine pest species among those that have a limited presence in the Russian Federation are the following:

- California scale (*Quadraspidiotus perniciosus*) (quarantine phytosanitary zones have been established in 211 municipal units of 18 subjects of the Russian Federation on a total area of 95.4 TH HA);
- Fall webworm moth (*Hyphantria cunea Drury*)(quarantine phytosanitary zones have been established in 175 municipal regions of 16 subjects of the Russian Federation on a total area of 306.2 TH HA); and
- Oriental fruit moth (*Grapholita molesta* (Busck) (quarantine phytosanitary zones have been established in 112 municipal regions of 16 subjects of the Russian Federation on a total area of 27.2 TH HA).

As for plant disease pathogens, the most common include sunflower stem blight (*Diaporthe helianthi* Munt.-Cvet. At.al) (hotbeds are detected in 131 municipal units of 10 subjects of the Russian Federation) and bacterial gummosis (*Erwinia amylovora* (Burrill) Winslow et al.) (hotbeds are detected in 44 municipal units of 15 subjects of the Russian Federation).

Among quarantine pests connected with potatoes, the most widely spread in the Russian Federation is

the *Globodera rostochiensis (Wollenweber) Behrens* (quarantine phytosanitary zones are established in 813 municipal units of 61 subjects of the Russian Federation)

As for the quarantine weed species, the most common include:

- Dodders (*Cuscuta spp.*) (quarantine phytosanitary zones were been established in 697 municipal units of 67 subjects of the Russian Federation);
- Common ragweed (*Ambrosia artemisiifolia L.*) (quarantine phytosanitary zones have been established in 362 municipal units of 31 subject of the Russian Federation), and
- Mountain bluet (*Acroptylon repens*) (in 202 municipal units of 19 subjects of the Russian Federation).

According to results of the quarantine phytosanitary examination and quarantine phytosanitary monitoring of the territory of the Russian Federation, in 2016, compared with 2015, the quarantine phytosanitary status of the territory of the Russian Federation has changed for 32 quarantine pest species. For 14 species new hotbeds were found and a quarantine regime was terminated for old hotbeds. For 11 species, new hotbeds were found, for 7 species the hotbeds were liquidated and the quarantine phytosanitary zones were terminated.

The quarantine phytosanitary status has not changed for 6 quarantine pest species of limited presence in the territory of the Russian Federation.

New hotbeds were identified and new quarantine phytosanitary zones were established for 25 quarantine pest species. Out of the total number of identified quarantine hotbeds, about 60 percent are species of weeds, 27 percent is one nematode specie, and 13 percent are species of plant pests and fungi, bacterial and phytoplasma plant pathogens.

The main changes in the total area of found hotbeds refer to 16 species of plant pests in 2016, 214 hotbeds of plant pests were detected on total area of 341.2 TH.HA. However, 7 species of pests of forest cultures account for 99.6% of the total area of new hotbeds.

In 2016, hotbeds were liquidated and quarantine phytosanitary zones were terminated for 21 quarantine pests. The total area of quarantine phytosanitary zones terminated in 2016 was 90,329,481.15 HA.

The largest area of terminated quarantine phytosanitary zones was for *Dendctonus micans Kurg*, which was excluded from the List of Quarantine Pests. In addition to this species, hotbeds of 9 species of plant pests, 5 types of plant pathogens and 6 types of weed plants were eliminated.